

important objects. As these however have been fully accomplished in the paper before us, I trust that, should opportunity offer, search may be made in the vicinity of these deserted cities for any traces which may enable us to arrive at conclusions regarding their history. A paper which I hope soon to publish (Journal of an expedition to the Naga Hills, by Lieut. Grange) will prove the value of similar research in a historical point of view, by the result of that officer's observations on Dhemapoor Nuggur, now like Lalgurhpeer a mass of ruins in a wild forest, but formerly the residence of the Cacharee Rajas. H

Sketch of the Physical Geography of Seistan, by Captain EDWARD CONOLLY, 6th Cavalry.

The southern limit of the lower ranges of that portion of the great Caucasian chain of mountains which lies between the 62nd and 65th meridians of east longitude, is well defined by the lower, or Dilaram road from Girishke to Furrah. From this line a vast desolate tract

Position. extends, part of that great desert, named rather loosely

by Malcolm, the Salt Desert. Sloping gradually to the south-west, it descends, like the plains of Tartary, in steppes, till its progress is arrested, on the south, by a high sandy desert, and on the west by a broad and lofty chain of hills (1) which stretches in a south-west direction from probably near Ghorian to the Surhud, and thus perhaps connects the Parapomisan mountains with the Southern Kohistan. The south-west corner of this thus interrupted plain, the last and lowest steppes, are Seistan (2).

The country so named, of which the length may in round numbers be estimated at 100 miles, and the breadth at 60, is entirely composed

Nature of the country. of flats, with the exception of one hill, (3) (the Koh-i-Zor) and in its whole extent, not a stone is to

1. This range is known by different names; in the latitude of Killah Rah, it is called, from a celebrated hill, Atishana near Bundau, Koh-i-Bundau—and opposite Zirreh Koh-i-Pulung,—the hill of leopards.

2. That is modern Seistan. In ancient times, the country known by this name was only bounded on the north by Ghare and Zemindawer, in the latter of which a learned orientalist has recognized Zabul. As the present sketch is intended solely to explain the map, and the ancient history and geography of Seistan and the countries around it will form the subject of a separate memoir, no allusion to the latter will be found here.

3. In the Univ: Gazetteer, 1837, you read, "The country is generally mountainous"? There is a small hill called Kohga, on the north-west of the Hamoon, which is sometimes surrounded by the water of the lake; at present it belongs to the chief of Laush.

be met with, except a few rounded pebbles in the beds of rivers. The soil is either the light and soluble earth of the desert, or the still lighter alluvial deposit, and there is hardly one tree, and not one of any size, in the whole country. From the north and north-east, it receives the waters of numerous rivers, which partaking of the nature of mountain torrents, at one time of the year rush down with great violence, almost black with mud, and at others are either quite dry, or flow in a clear, languid and shallow stream.

It requires but little knowledge of Physical Geography, to judge of the effect of a large body of water discharged in this manner, with varying velocity, into a basin, incapable, from its nature, of offering the slightest resistance to its progress. The water hurries away to the lowest spots, and there, when its turbulence has subsided, drops its loads of earth, till in process of time these low spots have become elevated, and the water is driven to some other place. It necessarily results, that the level of the country must constantly be altering, and that as the whole bed of the lake is thus gradually filling up, the waters spread themselves over a large surface every year. This extension is much assisted by the deposits which take place in the beds of the rivers at their mouths, which deposits are of course ever on the increase as the current becomes less rapid, when layer after layer of settling earth diminishes the slope. In consequence of this filling up of their beds, nearly all these rivers overflow their banks on entering Seistan.

Of the correctness of these views, the whole country exhibits many proofs, even to the passing traveller; and a scientific resident might probably be able to develop much of the interesting history of the progressive changes. For a long period of years, however, Seistan would seem to have presented much the same general appearance as is attempted to be delineated in the annexed sketch.

The violent action of the swollen streams was in a great measure moderated by large bodies of water being drawn off in canals, which were conducted, in some places, as far as forty miles, through dry and sandy tracts. Massive embankments had been also constructed by rich and enlightened governments, which prevented the water from flowing without controul, and confined it within certain bounds for the purposes of cultivation.

It is only of late years that a very remarkable change has taken place in the aspect of the country, to explain which it will be necessary to say a few words on the geography of its lakes and rivers, at the period represented in the sketch, when Captain Christie visited Seistan.

The lake, which stretched in a direction parallel to the Bundau hills, was about seventy miles long, and had an average breadth of eighteen miles. Its principal feeder, the Helmund, is not inaccurately laid down in our maps, with the exception, that the Khash-rood is not one of its tributaries, and that the Arghandab enters it just below, and not above, Killah Beest. This river, in the dry season, is never without a plentiful supply of water; during the swell, it comes down with astonishing rapidity, equal in size to the Jumna. As soon as it has left the hills, its bed is generally four or five miles in breadth, the water more easily penetrating the readily yielding sides than the bottom, converted into a sort of pavement by the stones rolled down from the mountains. The stream has not however of late years occupied the whole breadth, though in former times, before it had cut itself so deep a bed, it would appear to have done so near Girishke; for example, there are ruins at opposite sides of the river of forts known to have been contemporaneous, and under which the water must have flowed (for they are built in a semicircle, without a wall on the river face) though there is a space of four miles between them.

The stream now hugs its left bank, above which rises in vast mounds the sandy desert. The ancient right bank is well marked by the high cliffs of the plain before mentioned, which are every where hollowed and indurated by the action of water. The rich space between this bank and the modern channel, of which the average breadth is rather more than two miles, is the country of Gurmsehl.

The Helmund receives the waters of one or two small streams from the desert on the west, which will be mentioned in the description of that tract.

The three rivers next to be described, have experienced little change since 1810. The first, the Furrah-rood, passes a little to the north of the fort of Furrah, and runs close under Laush, about twenty miles south of which it enters the Seistan lake. I am not aware of this river receiving any tributaries in the lower part of its course. (4) The Furrah-rood is nearly dry for the greater part of the year, water is however confined in many places by bunds or natural hollows, and is always to be found by digging a few feet into its bed, which is the case with the Helmund, and most of the rivers of eastern Asia. (5) During the spring it is a broad and rapid river, but not half the size of the Helmund.

4. The Gizea found in Arrowsmith's Map of Central Asia, 1834, must be either erroneously laid down, or is some insignificant stream.

5. Baber remarks this in his memoirs.

About twelve miles west of the mouth of the Furrah-rood, a river discharges itself into the same lake, which though equal in size to the last named, has nearly escaped the observation of geographers (6): this is the Adrascund, which crosses the high road, some fifty miles south of Herat, near a place where it is joined by the Rod-i-Gez, celebrated for the sweetness of its waters. After flowing east by south, through the plain of Subzawar, it sweeps round to the west, runs down a narrow valley called Jaya, and passes a little to the south of the valley of Pomegranates, (7) where Capt. Christie crossed without recognizing it. Of the course of the stream for a short distance after this, I am doubtful, but its further progress to the west must be soon arrested by the inclination of the ground from the western range of hills before mentioned. Entering the tract, from its extreme barrenness called the Waste of Despair, (Tug-i-Noomed) (8) its name, which since leaving Subzawar has been changed to Jaya, is again altered to that of the fallen angel Haroot. It then flows a little to the west of Killah Rah, the northern part of which it waters, and with a nearly southerly course empties itself into the lake of Seistan. A few miles above its mouth, the Herat receives a small salt river, the Khash Koduk, which has water only in the spring, when it drains the marsh of Furrah.

During the wet season, a mountain torrent, rather than a river, flows S. E. into the lake from Bundau, by the name of which place it is known. The Bundau has a course of less than 50 miles, and only deserves notice as being, as far as our knowledge extends, the solitary stream which enters Seistan from the west.

The Khash-rood has for so long a period occupied an erroneous position on our maps, that its real course deserves particular attention. After crossing the Herat road, it travels south-west to Seistan, but in 1810 it did not enter the lake; its waters just below Chukhnasoor, having spread themselves out over a low tract called from a species of marshy grass (aishk) which abounds there, Aishkineik. That the Khash-rood has been stated to empty itself into the Helmund at Kona, sheea, may perhaps be accounted for, by supposing some confusion between the name of that post and of Chukhnasoor, of which the more correct appellation is said to be Khanehsoor, or the house of marriage, it being there, according to tradition, that Giu married a daughter of Roostum.

6. Gerard first traced its course from the Herat-rood to Anardureh.

7. Anardureh.

8. I do not exactly understand the limits of the plain known by this name. North of it is a great salt tract, the Nimuksar.

The Khash is a much smaller river than the Furrah; a large proportion of its waters are drained off for cultivation, and during the greater part of the year its channel, which is never of any great width, only contains waters where it has been banked in, or in a few deep pools. On its banks and in Seistan, the Khash is always called the Khoosh, and in some geographical works is written Khooshk, or the dry river. The Aishkineik was a marsh during the swell, and dry in summer.

The Ibrahim Jooi is made in our maps to fall into the Khash, but in reality a little below Bukheva, it spreads itself out and forms a marsh also called Aishkineik, which is, however, usually dry, there being little water lower than the Ismail Khan. I know of no stream flowing into the Khash from the west, except a small river which commences, I was told, somewhere below Bukheva; from the east it receives the Rod-i-Regghi, the direction of which will be seen in the map; but of the early part of its course I am doubtful.

To the west of the Khash three smaller streams flow into Seistan from the north-east; the Rod-i-Khar, the Chabulk, and the Koospas. The first and least, at the period of which we are speaking, discharged itself into the Aishkineik above Chukhnasoor.

Of the other two, the Chabulk rises in a spring called Chusmeh Meshak, about six miles south-east of Toojk, below Furrah; the second at Siah-ab, a hill between Koormalik and Bukheva, celebrated as the spot where the Vuzeer Shah Wulee was put to death. These two rivers formerly debouched in a lake some miles east of the principal one, and known by the name of Duk-i-Teer, a promontory on its eastern bank, famous in the fabulous history of Seistan, as the place from whence Roostum procured the arrow with which he killed Isfundear.

Of the extent of this lake I have no very precise information. On the north it reached to within eight miles of Jowaine; it was probably connected with the Aishkineik on its south, and when swelled by extraordinary floods, may have even been united with the lake of Koh-i-Khwajeh, as a high bank prevents its extension to the eastward.

It also received some of the waters of the Helmund by branches striking off north and east from that river, after it had passed Rodbar. Of these the principal, which left the parent stream near Deh-i-Nusser Khan, was called the river of Ilumdar, and another of smaller size, but since become remarkable, went off from Khwajeh Ahmed.

Such was Seistan for a long time. The Helmund glided along each succeeding year in nearly the same channel it had occupied the year before, and the inhabitants on its banks were too ignorant to remark or to care to counteract the consequences they could have hardly failed to fore-

see, of the change which was gradually preparing by the annual deposition of alluvial matter. The great embankments, whose ruins still record the names and wisdom of kings of yore had been neglected or destroyed, and the canals which enriched more than one desert district, were dry, and the fields they had watered a waste. Zirreh, so celebrated in history, which defied the arms of Chengiz and Timour, did not boast one inhabitant. Of Tragu, Killah Put, and Pshaweroon, and of other great cities, through the ruins of which the traveller wanders for days, all that remained were the walls and the name.

About nine years ago an unusually large inundation changed the whole face of the country. The main stream of the Helmund deserted its old bed, and cutting for itself a wide channel out of that of the small branch which went off from Khwajeh Ahmed, carried the greater part of its waters to the Duk-i-Teer. This lake was insufficient to contain so large an accession to its mass; the superfluous waters forced themselves a passage through a narrow and low neck of land to the westward, and discharged in this manner into the old lake, thus connected, and made the two one.

The inhabitants of Seistan were at length roused from their indifference by a disaster which threatened their very existence, as it deprived them of the means of irrigating their fields. United by the common danger, a large body of men of the different tribes assembled together, and in the course of the ensuing summer raised an immense mound across the river, near the place where the waters had diverged; but through their ignorance of physics, their labour was thrown away. The next flood turned the embankment, and the river, as in the preceding year, passed away from Seistan. Since that time the Seistanis despairing of success, have made no further effort to reclaim their river. The greater part of the water of the Helmund is discharged into the Duk-i-Teer by several mouths, and the now scanty stream of the old bed, confined by numerous bunds, hardly suffices to water the lands it formerly overflowed, and is a never ending source of contention, between the various tribes which inhabit its banks.

Geographers have been at a loss to account for the many different names which have been given to the lake of Seistan. The solution of the puzzle is very simple.

Name of the lake of Seistan.

The Persian word Hamoon *حامون* signifies a plain level ground. (9) The Seistanis apply the term to any expanse of water.

9. It is frequently found in this sense in Persian authors, as in the Bostan :—

Ze deria amá bur amud Ruse,

Sufur Kurdáh deria wo Hamoon buse.

I know of no instance of any author having used the term to express an expanse of water. The similar sounding name of the Oxus, Amoo, is probably descriptive of its periodical swell.

During the swell, as before observed, the Helmund overflows its banks, and water is sometimes carried into low spots, from which some ridge intercepts its retreat, when the river again retires to its bed. In this manner numerous small lakes were formed, and each of them was called a Hamoon, and was distinguished by its particular appellative. The united waters are styled the Hamoon without any distinctive adjective. The old lake also was in former times known as the Hamoon, though sometimes, as now specified by the name of the celebrated hill in the midst of it, the Koh-i-Zor, or Roostum, or as it is more generally called from a modern saint, Koh-i-Khwajeh.

The Hamoon of Zirreh was some miles to the south the Hamoon of Koh-i-Khwajeh, and was perhaps formed in the manner above described, from the overflow of that lake; though it is not improbable that a natural or artificial branch of the Helmund went direct to Zirreh. This Hamoon will be mentioned in the sequel. The lake of Zirreh, and many smaller ones, some of which are marked on the map, are either dry, or are drying up in consequence of the diversion of the Helmund. On the site of one, Boorj, one of the four capitals of Seistan has been built, and the place of water is supplied by corn-fields.

I cannot learn that the principal Hamoon, or any of the smaller ones were ever styled in Seistan, Loukh; I suppose therefore, that title to be a Persian or Afghan fabrication, or it may have obtained currency through some misconception of the meaning of the person who originally employed it to designate the lake, to many parts of which the name would be sufficiently appropriate, "Loukh" in Persian and Pushtoo signifying "rushes:" but this word is not known in Seistan, where a rush is invariably called "Toot."

The most fitting appellation of the Hamoon is the classical one of Aria Palus, for it is in reality almost every where a mere marsh. It has rarely a depth of more than from three to four feet, and is almost entirely covered with reeds or rushes. There is however a considerable difference in the appearance of the old and new lake, particularly in the dry season.

Of the Duk-i-Teer, I have only seen the south part; there it is a large sheet of water, thickly studded with reed-topped islands, its depth averaging about four feet, and having a very muddy bottom. The reeds are tall and close together, but you can walk through them without difficulty. To the north there is probably less water, and the reeds are not in patches, but cover the whole surface. In the old Hamoon, on the contrary, the reeds are in most places stiff and thick with age, and stand so close together in clumps, their roots being united by little hillocks of encrusted earth, that quadrupeds even are unable to force their way through them.

This is particularly the case round the hill of Roostum, the only mode of reaching which in the summer is by a ditch two or three feet wide, and having an average depth of three feet of water, very salt, rank with putrifying matter, and nearly as black as ink. Men, horses, and cows wade through the slime, people of the better classes are conveyed to and fro in a species of canoe called Tootee, and peculiar, I believe, to Seistan. Four or five bundles of reeds are fastened together by rushes, or by the flexible tops of reeds, the cut edges forming a square stem, the upper ends being tied in a point for a prow. The passenger seats himself in the middle, one man pushes from behind, and another pulls at the front. During the wet season the tootees are made of larger size, so as to admit of as many as four men sitting in them, and are propelled by paddles and long poles, but they are rarely taken into the deeper water, where the waves would wet and sink them. These boats last only for a few days, for the wet reeds soon become rotten and heavy; they are made and navigated by a particular class of men called Syads, a word which expresses their profession of fowlers. The ditch road I have mentioned has to be renewed every year when the waters have subsided.

The old Hamoon can be seen to the greatest advantage from the tops of the hill of Roostum, from which elevated position the eye travels uninterrupted over a plain bounded only by the horizon, except on the west, where, at fifty miles distance, rises the chain of the Bundau hills.

View from Roh-i-Khwajeh.

It was in September that I took my station on this hill; immediately beneath me lay a yellow plain, as level as a calm sea, formed by the tops of reeds, and extending north and south long beyond the reach of vision. On the east it was bounded by a strip of paler yellow, marking the borders of the lake, where the less thickly growing reeds are annually burnt down, and a few poor Kheils clear away the ground for the cultivation of water-melons. Beyond again, in this direction, appeared the dark green of the tamarisks, whole forests (11) of which fringe the lake. Here and there as we looked around on every side, were seen patches of blue water, and on the west a large clear lake stretched away till out of sight. All seemed waste, but the towers of Chuling and Sekoha showed like white specks in the distance; and winding and shining through the tamarisks, you might trace the course of several streams, which once formed the delta of the Helmund, and in which water is still retained at intervals for the purposes of agri-

11 Lest I be accused of a contradiction, as it has been said that there are no trees in Seistan, I may mention, that the tamarisks rarely, if ever, attain any great size in that country.

culture. The water of the Hamoon is salt (12), but not at all places equally so, the intensity varying according to the depth, nature of the soil on which it rests, and the proximity to the mouths of the rivers. The Seistanis boast that the water of their country is the best in the world, that it gives an appetite, and promotes digestion; even when most distasteful, it is said not to be injurious, and the garrison of Koh-i-Khwajeh drank no other than that of the ditch path, described above, which is so brackish that none of our horses after a fatiguing march in the sun could be induced to drink it.

It has been stated that the Hamoon is every year spreading over a large superficies, which requires explanation, since it seems at variance with the received theory of the other inland lakes, the Caspian, Aral, &c. all of which are said to cover a less space now, than they did in former times. With only a general knowledge of the geography of those seas, it is dangerous to hazard a conjecture regarding them, but it seems by no means improbable that much of the land which is represented as shewing traces of having once formed part of the lakes in question, was covered with water before those lakes had occupied their present beds, proving therefore no more than that the water has changed its position, not that it is less in extent. The Caspian on the north, where traces of inundation on lands now dry are the most remarkable, is shallow, marshy, and covered with reeds, as if the water was gradually deserting it. It must however be borne in mind, that as the lake spreads, it offers a large surface to the action of evaporation, and that in proportion to the apparent increase, there is a real diminution in bulk.

The evaporation in Seistan must be very great. The heat in summer is said to be more oppressive than that of Candahar, and for half the year, a strong steady wind blows from the snowy mountains above Herat, to compensate the exhaustion of air in the burning desert to the south. This wind, which is called the "Bād i sud o bist roz," "a wind of 120 days," is confined to a breadth of about 80 miles, being bounded on the west by the Bundau hills, and extending no further east, it is said, than Khash.

I should have desired here to give some account of the natural history of Seistan, but of the study itself I am nearly ignorant; the field is, I suspect, a barren one, and the season at which I visited the country was

12 Nothing but common salt is found in Seistan itself. The plain of Furrah is a saltpetre marsh. Salt is found in patches in various parts of the desert, that of Peer i Rizre in the Gurmsehl is celebrated for its whiteness.

unfavourable to the prosecution of it. A description of the Hamoon however would be incomplete, without some notice of the more common animals to which the lake gives birth or affords nourishment.

The marshy and reedy parts of the lake shelter innumerable wild hogs.

Natural History. In a small history of Seistan written by a native, it

is stated, that when a man cultivates a piece of ground, he calculates on losing half the produce by their ravages. The villagers,

as may be supposed, spare no means to destroy these destructors; they lay snares for them, shoot them, and

Wild Hogs. hunt them down with dogs. The dogs are large, strong, bold animals, resembling the Bhil dogs of India, and are regularly trained to hunt.

Accompanied by a dozen or more of these you sally out, and as soon as you approach the reedy grounds which the hogs frequent, you perceive on all sides the earth ploughed up with their tusks. The Seistanis, who are eager sportsmen, strip, and wade nearly naked through the mud. Soon a bark is heard, the note is immediately taken up, and all the dogs join in the cry like a pack of English hounds. After a due quantity of holloing and splashing the game is brought down, or if of large size, is held at bay till the huntsmen come up and despatch it with their matchlocks. The Seistanis though Sheeahs, and like all Sheeahs full of prejudices, do not object to handle the hog: the nearest huntsman cuts up the carcase and gives slices of it to the dogs, and the rest is brought home as food for them.

When the waters are rising in the spring, herds of thirty or forty are to be seen swimming one behind the other from island to island. Large numbers are thus sometimes collected into a small spot, and the hunting then becomes most dangerous; hardly a year passes without lives being lost in the sport.

The hogs are however a trifling nuisance compared with the hosts of

Insects. insects bred in the stagnant waters. The mosquitoes

are so troublesome, that in the spring, the poorest villager is obliged to make a small room of a coarse open cloth called "kirbas," into which he retires with his family as soon as the sun sets. "Clap your hands together," said a man whom I asked to give me some idea of their number, for when we passed through Seistan there were none, "and the palms will be covered with blood." Fleas are said to be no less numerous, and from them there is no escape; but the worst plague of all are the flies. I had been sometime in Seistan before I understood why the inhabitants complained so much of these insects; a few would now and then settle on the inside of our horses thighs, (every other part of the body being always protected by cloth) and where they bite a small stain of blood is

left, so that the animal was marked as if leeches had been applied to it; but this was all, and though every one said, "You have not seen the flies, a cold night killed them just before you arrived, &c.," I began to suspect that the reports I had heard on the subject were fabrications, or at least exaggerations. I was mistaken: it was our last march in Seistan; we were approaching Chukhnasoor, and our road lay over some soil which the water of the lake had lately left, and which was hard, dry, and broken into innumerable small cracks: from these cracks such swarms of flies issued, that I can only give an idea of their numbers, by comparing them, to bees near a hive which has just been disturbed. They buzzed round our faces, and bit us in every less protected part, as the ankle above the shoe, the neck, &c. When we reached our halting ground, Peer i Risri, on the bank of the river Khash, their numbers were incredible; the horses were nearly maddened, and the servants declared they would all be killed. We lighted fires on the windward side of every horse, smothering the flame to make the smoke rise: this was not sufficient; we could not drive away the flies from our own persons, and the heat was too great to allow of our covering our faces with a cloth. On the opposite bank was a thick jungle of dry reed, we set fire to it, and huge volumes of smoke driving over us, we escaped our tormentors at the expense of sore eyes, and being blackened with ashes. During the night, afraid to face another day here, we hurried away to Ruddeh, glad to be quit of the flies and Seistan.

The Seistan fly resembles the common fly, but is twice as large. In the spring it is of a pale brown with dark spots; as the year closes the colour turns black, and soon after the insect dies. The bite is painful, but less so than the sting of a wasp, and the pain is only momentary.

To the annoying attacks of the flies, is generally attributed the remarkable mortality which prevails among horses in
Horses. Seistan, and it is not improbable that the irritation produced by their bites may have considerable effect in promoting the evil. There is hardly a horse in the country. Of more than 5,000 brought by Kamran in his expedition, about four years ago, not one is said to have been alive six months after the return of the army to Herat. This is of course a gross exaggeration, but there is no doubt that the loss was immense. The few horses which the Seistan chiefs keep for state, are tended with the greatest care in dark stables, from which they never issue, unless on some important occasion, except during the winter. When brought out their whole bodies are covered with cloth, particular care being taken to protect the belly, for a bite in that part is considered fatal; they are never galloped, for it is believed that if a horse sweats, he is sure to die. I bought a horse from a Belooch chief, which Rhohundil Khan of Candahar

had sent down as a present four years before. The beast had never been mounted, had hardly left the stable, and the owner was glad to accept any trifle for it to escape the expence of its keep.

The symptoms of the fatal disease, which is called "Soorkh surgeon," or red dung, are as nearly as I could collect from inquiries among the natives, and my own observation, as follows. First, the hind legs swell. The Seistanis then say "Bad gerift," "the wind has seized him," an expression applied commonly to a rheumatic complaint. One of my riding horses refused its food; we were standing by inquiring the cause, when a man who was looking on, came up, opened the mouth of the animal, and exclaimed, "Your horse will die---he has got white gums:" this is the second symptom. The dung now turns of a vermillion colour, the skin is frequently covered with pimples, the urine is bloody, and at last a paralysis seizes on all the limbs, and soon after death ensues. The eye during the progress of the disease is of a pale yellow colour, only a few specks of white remaining, and it is said that the "tail dries up," so that you can pull out the hairs by hands full. The disease in some cases I witnessed, killed in three days; but horses passing through Seistan generally live for a few months, dying however in certainly two cases out of five, within the year. The Seistanis having found all their remedies fail, now generally abandon a horse to its fate as soon as it is taken ill. Bleeding, the most obvious treatment, is, I was assured, useless, and the only mode of cure recommended to me, (warm goat's blood) is evidently absurd. This epidemic is confined to Seistan; it is not known at Jowaine, or Neh, or even Kuddeh. The Seistanis pretend that it has only appeared in their country of late years, but the ancient Zarangeans, and the armies which fought against Timoor, were foot soldiers, which argues the contrary.

The climate is unfavourable, but in a less degree, to camels. Both these animals and sheep die in great numbers from eating the leaves of a plant called Trootk. Not more than 3 or 4000 camels could be procured in Seistan; when required, they are brought from Gurmsehl, or the sandy desert to the S.E. Sheep feed generally on a small creeping plant called Boonoo, which abounds in the salt grounds, and which tastes like salt itself. Boonoo is sometimes used for horses' food, but it is first washed, by which process it loses much of its bitterness. There are many varieties of grasses all over the country, but several of them were said to have noxious qualities. (13) The only domestic animal which thrives well except

13. I collected specimens of them which are not at present available for verification. The most common is called Kirta, when we passed through Furrah, that whole plain was covered with it, and resembled a rich English meadow, sheep and cows thrive on Kirta, but it acts on horses as an aperient.

the mule and ass,---the latter of which is very common and useful, is the cow, which is much valued in the neighbouring countries. People
 Cows. send their cows from a distance to pasture on the reeds of the Hamoon, which soon bring them into condition, but a cow thus fattened, though looking sleek and plump, does not yield the same quantity of milk as the Candahar cow, which revels on artificial grasses; for the first, six seers of milk is considered a fair supply; at Candahar twelve seers are commonly drawn. The Seistan cows are exported, three or four hundred every year, to Candahar, Persia, &c. I heard a well attested story of one which had returned by itself from Teheran.

Cows are put to a singular use in this country (14); they are taught to hunt. In the spring, when the lake is covered with water-
 Stalking. birds, the cow quietly crops the reeds, and the birds used to its presence, do not rise at its approach. Behind it skulks the huntsman, his matchlock resting on its back. The cow moves along very quietly, first lifting one leg and then after a pause another, every now and then stopping and feeding, till it comes to within a few feet of a dense mass of fowls. The hunter then fires, picks up his prey, and continues his sport as before.

Many cows are said to die from a disease called "Murk," (a corruption perhaps of "Murg," death) when you are told, a maggot is always found in the liver.

The water-birds of Seistan I did not see, but I could well credit the reports of their extraordinary numbers by the appearance of many parts of the grounds which had been lately deserted by water; in some places
 Birds. the marks of feet were so numerous as to remind us of an etching. Geese, ducks, and teal, are tamed. A very fine species of tame duck is brought from Bunnore, and is commonly offered as a present in Seistan.

A famous shot, a cousin of the principal chief in Seistan, Mahomed Reza Khan, wrote out for me a long list of all the birds with which he was acquainted, with remarks on their habits, &c. but his notes are more amusing than instructive.(15)

There are probably few fish in the lakes, or rather few varieties of fish.
 Fish In all the rivers we crossed from Girishke to Herat, though we frequently threw in poison, and caught fish in hundreds, we only found two species, a carp and a silurees. The Heri-rood has

14. The same custom is known in Afghanistan; see Elphinstone.

15. Thus he speaks of the Kohtan, or pelican, the water-carrier of the birds, which fills its bag with water, and flies far away into the thirsty desert, where the little birds exchange the food which they have collected, for a drink of his water. Or of the "Furdeh begirum," or "I'll catch him to-morrow," a kind of bastard hawk. Every morning it resolves to go a hunting, but scarcely has it made two circles in the air, when a piece of cow-dung attracts its eye, "Well never mind," it exclaims, settling down on the cow-dung, "I'll catch to-morrow."

also the dace, and in the Hamoon there is a small fish much esteemed, called Aujuk ; it was not in season, and I did not see one.

The more common wild animals are wolves (which will attack cows and even men) jackalls, hyænas, foxes, porcupines, hedge-hogs, the kangaroo-rat, otters, &c.

The skins of the last are exported to Bokhara, and sell even in Seistan for three or four rupees. The leopard, or as a native described it to me, "the tiger's younger brother," is found in the western hills, to which it gives a name.

Wild asses and deer abound in the desert which lies between the Helmund and the Bundau hills. This tract differs much from the sandy desert south of the river. Little sand is found on it, except in strips of no great width. For the most part it consists of a hard, compact, light-coloured clay,

over which a few shrubs, tamarisks, and grasses are thinly scattered, but sometimes it is perfectly destitute of vegetation for miles. Large spaces are found covered over with rolled stones, nor could we in every case assign a plausible explanation of their presence. The few isolated hills are marked on the map.

Water is procured by digging wells in the beds of one or two small rivulets, such as the Murja and Tagrish, which are dry except after a fall of rain, and a tract runs through the desert, called Shund, where water can always be found within a few feet of the surface. Formerly brick wells were to be met with at every 10 or 12 miles on the caravan routes, but they are now almost all of them purposely destroyed by the Afghans, that the plundering Belooches may be prevented by want of halting places from invading them. From the scarcity of water in the interior, it is almost destitute of animal life ; the deer are found near the rivers, but chiefly, and in immense herds, at a distance of generally 7 or 8 miles from the Helmund, where they are almost intermixed with large flocks of sheep, which are sent there from the banks of the river to fatten on a grass called Muj. The mode of catching the deer is curious. The canals for irrigation are always cut as closely as possible to the cliffs of the desert, a narrow space only being left for a high road. The traveller in the Gurmsehl will remark the outer or desert edge of the canals lined for miles with a slight railing of threads raised on small pieces of stick ; at every one or two hundred yards a gap is left. Here in a pit dug for the purpose on the inner side of the canal, sits crouching the hunter, the muzzle of his matchlock, which rests on the edge of the pit, being concealed by a parapet of small stones.

In the twilight, either morning or evening, the deer steal from the dry desert to slake their thirst in the canal, sometimes singly, sometimes in

herds, one walking quietly behind the other. A troop is seen approaching; on reaching the edge of the water the white line is perceived, and the leader afraid to cross it, turns, and followed by the rest walks trembling along side of it till the spot is reached where the hunter lies concealed. This is an anxious moment; the deer pauses as if to consult with his brethren. Frequently the marksman in his eagerness moves, a stone falls down from the parapet, and the startled herd scamper off to the desert again; but they must soon return. As the poor animal which has been once scared returns half dead with fear and thirst to the dangerous spot, you can hear its heart beating. Slowly, and step by step, frequently stopping and looking round, it at length has neared the water: it stoops to drink: the muzzle of the gun is within a few inches of its head: before one sip has been taken, a bullet has pierced its brain.

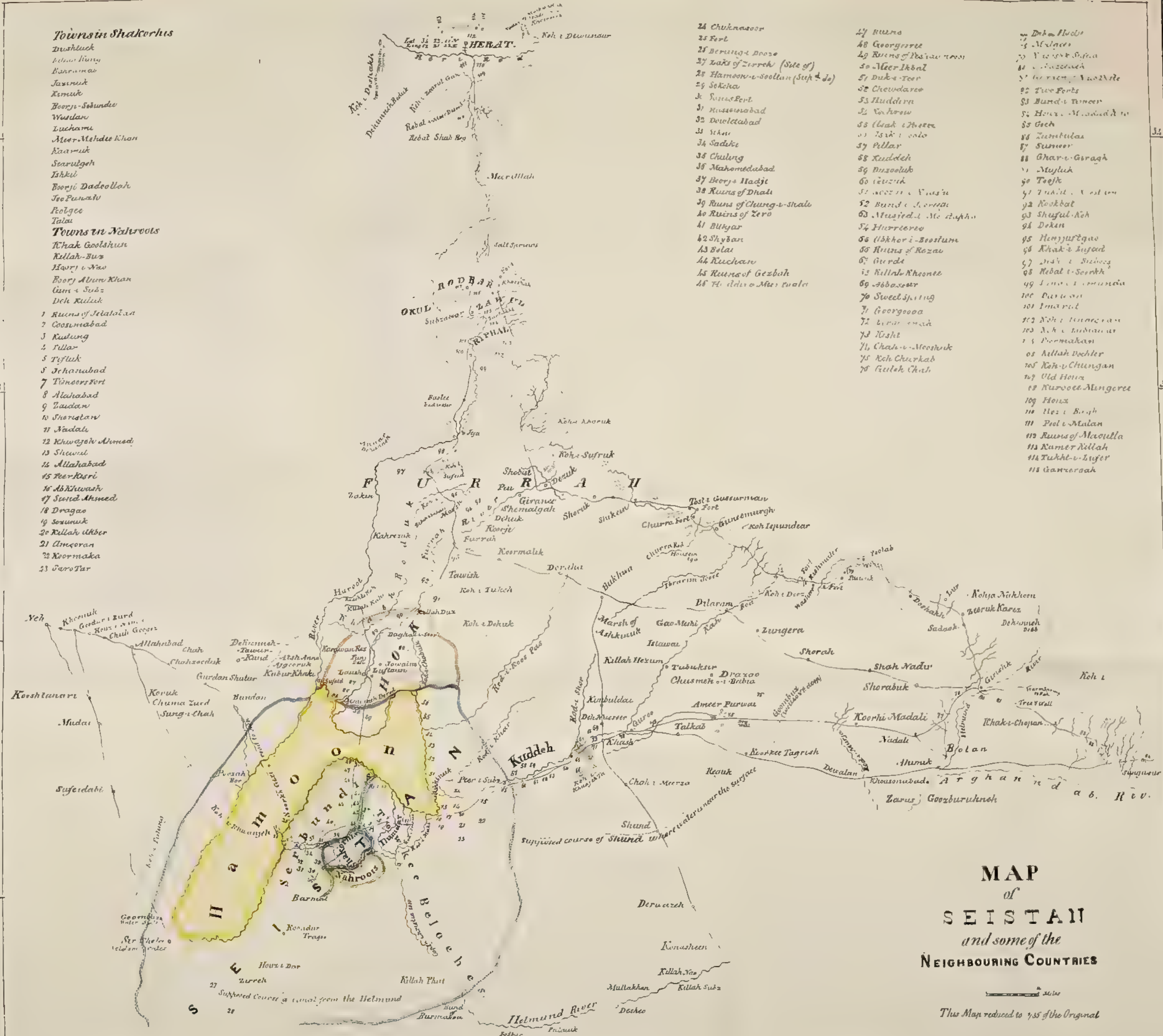
Wild asses are not common in that part of the desert I traversed; they are said to be found in great numbers, in herds of two or three hundred, on the plains west of Seistan.

The soil of Seistan is celebrated for its richness, and many incredible stories were told me of its productiveness. From this fertility it might be supposed that Seistan was a garden,—it is a desert rather. With the exception of wheat, cotton (the plant of which is not half the height of the Indian one, but which bears a large pod) and in some places rice, and a little ill flavoured tobacco, and a few of the coarser grains, bajra, &c. almost the only plants found there are grasses and water-melons. The latter are singularly fine and large, and of several kinds; there are no artificial grasses, no vegetables, nor flowers. The largest tree is a sickly pomegranate. If a Seistani is asked “why don’t you make gardens?” he will answer, “We don’t know how.” Were the people less ignorant and lazy, their country would produce every plant which grows in Candahar or Persia, besides probably sugar-cane, and many of the productions of Hindoostan; there is no reason why trees should not flourish here. The Gurmsehl was equally destitute of them a few years ago, but some 1200 young mulberry trees were imported there by a chief, and the country is now well stocked with them.

The climate of Seistan is decidedly unfavourable to human life, and the small proportion of old men struck us forcibly. Fever and ague is the prevailing disease, as might be expected from the immense quantity of stagnant water, to which is superadded the bad effects of hot days and generally cold nights. From the constant high wind and the dust it raises, mixed with particles of salt, or from general ill health, consequent on malaria, one man in five throughout the country has diseased eyes. Nature indeed, as respects comfort, has little favoured

- 1 Ruins of Jetalot'an
- 2 Coosmabad
- 3 Kuslung
- 4 Pillar
- 5 Tefluk
- 6 Jchanabad
- 7 Tinsorekfort
- 8 Alahabad
- 9 Zaidan
- 10 Jhoristan
- 11 Nadali
- 12 Khwajeh Ahmed
- 13 Shewul
- 14 Allahabad
- 15 PeerKasri
- 16 AkKhwasht
- 17 Sured Ahmed
- 18 Dragao
- 19 Sozunuk
- 20 Killa Shikber
- 21 Amgoran
- 22 Koormaka
- 23 Jaro Tar

- Khak Goolshun
Kellah-Buz
Haurj e Nao
Boory Alum Khan
Gum + Sub=
Deh Kuluk



This Map reduced to 1/55 of the Original

Seistan, and for three months of the year only, the cold months (16), can life in it be said to be enjoyed.(17)

Note on the Map.

Any merits, which the map may be judged to possess, should be attributed to Sergeant Cameron, who surveyed the whole route, except that part of it which lies between Seistan and Killah Beest, for the errors of which I alone am responsible.(18)

The survey has been made only with the compass, but a flat country, with hills interspersed at long intervals is so easily laid down, we had so many well determined points d'appui, and our numerous bearings answered so perfectly, that I feel confident of there being no error of consequence in the portion of the map over which our route lay.

From Gerishke to Herat the route has been taken from Capt. Lander's survey.

The villages in the valley of Furrah are placed from native information. During our stay in that valley there was a thick haze which prevented the taking of a bearing.

The determining what shape to give to the Hamoon, which has a different shape every month of the year, was a point of much doubt and difficulty; the one adopted is that we believe the lake to assume in June, when the water retires from overflowing the surrounding country to its more natural and proper bed. Under these circumstances all that can be hoped for, or expected, is an approximation to the truth, but the only part

16 The cold weather is very pleasant, and similar to that of the north-west of Hindoostan. Snow has been known to fall in Seistan, but it is a rare and remarkable occurrence. Snow lies for five or six days during the winter at Herat. Its boundary is said to be the height of Shah Bed, but it not unfrequently snows at Hilzawar. About two years ago an army from Candahar invaded Herat; while it was encamped at Jaja a fall of snow surprised them, which was so severe that they lost several hundred horses.

17 In apology for the many omissions of this imperfect paper, I may mention that it is only a part of a more comprehensive memoir, which I am drawing up on the subject of Seistan.

18 The untimely end of Sergeant Cameron has been already made public. This man, the son of a respectable builder of Perth, after his return from Seistan accompanied me in a journey through some before unexplored parts of the Eusafzye country. I cannot speak too highly of his zeal for science, industry, ready talents, and gentlemanly deportment. His health failed him in Seistan, from whence to the Helmund, we were obliged to have him carried on a bed. Afterwards he rallied again, but his disease, consumption, was latterly gaining upon him, and I do not think that under any circumstances, he could have lived many months longer. As he was too weak to travel except slowly, I left him at Peshawer to follow at his leisure, and myself went on in advance with a few horsemen to Jelalabad. He had a strong guard with him, and had nearly reached the end of the Khyber pass. Unsuspecting of danger, he had dropped a little in rear of his party, when on a sudden he found himself surrounded by sixty men, while sixty others appeared on the hill above him. Seeing that resistance was hopeless, he dismounted, and drawing his sword, presented it to the nearest of the robbers. Just at that moment a stone struck him on the head and knocked him down; the ruffians in their blind fury rushed on him, and cut him to pieces with their knives.

of the Hamoon regarding which I do not feel satisfied, is to the south, where we have fewer opportunities of checking our information.

It is a source of much regret that we did not visit Zirreh; ignorant of the geography of the country, we were not aware of our having travelled away from it, till it was too late to repair the error; and as that part of Seistan is now uninhabited and rarely visited, it was difficult to get any satisfactory account of its present condition.

Of all the places inserted in the map which did not come under our personal observation, the relative positions alone can be depended on. The distances from one spot to another are in many instances doubtful, if not conjectural.

Proceedings of the Asiatic Society.

(Wednesday Evening, 7th October, 1840.)

The Honorable Sir E. RYAN, President, in the Chair.

The following gentlemen proposed at the last Meeting, were elected Members of the Society:—

M. P. EDGEWORTH, Esq.

Capt. W. LOVEDAY, ditto.

Capt. T. HUTTON, 37th Regt. N. I.

Dr. J. D. D. HÆBERLIN.

Library and Museum.

The following Books, &c. were presented:—

Lardner's Cabinet Cyclopædia; History of Denmark, Sweden, and Norway, vol. 3.

Edinburgh New Philosophical Journal, by Professor Jameson, 1840, No. 56.

London and Edinburgh Philosophical Magazine and Journal of Science, No.

104, May 1840, London, 3d Series.

Yarrell's History of British Birds, London, May 1840, 18.

Oriental Christian Spectator, August 1840, 2nd Series, vol. 1st, No. 8th.

Journal des Savans, Janvier, Fevrier, Mars. 1840, Paris.

Bulletin de la Societe' de Geographic, Paris, 1839, 2nd Series, Tome 12, 8vo.

Christian Observer, new Series, vol. 1st, No. 10.

Journal Asiatic Society of Bengal, New Series, vol. 9th, No. 17.

Sketch of the Country between Kurrachee and the Aghar River, MSS.

Sketch shewing the situation of the Coals found in the Tenasserim Provinces.

Sree Vhagavat (Purana) in Deva Nagari, 4to.

Corrected Copy in Deva Nagari Character from the original in the Journal.

Four Pooties in Sanscrit.

A tin box of forged Seals presented by A. GRANT, Esq. Collector of Delhi, forwarded by H. M. ELLIOT, Esq.